

What is claimed is:

1. A platelet collecting apparatus comprising:

a centrifugal separator possessing a rotatable rotor having a blood storing space formed therein and an inlet and an outlet both communicating with said blood storing space and centrifugally separating the blood introduced through said inlet inside said blood storing space by virtue of the rotation of said rotor;

a first line for allowing the flow of the blood entering said centrifugal separator;

a second line for allowing the flow of the blood emanating from said centrifugal separator;

a plasma collecting bag connected to said first line and said second line so as to collect the plasma emanating from said centrifugal separator and return the collected plasma to said centrifugal separator;

a platelet collecting bag connected to said second line so as to collect the platelets emanating from said centrifugal separator;

a blood delivering pump disposed in said first line; and

a controller for controlling the operation of said rotor of said centrifugal separator and the operation of said blood delivering pump,

wherein said controller is endowed with a function of varying the rotational frequency of said rotor during the course of blood collection in conformity with the amount of the blood entered into said centrifugal separator via said first line.

2. A platelet collecting apparatus according to claim 1, wherein said controller is further furnished with a function

of circulating the plasma collected in said plasma collecting bag as accelerated to said centrifugal separator and a function of varying the rotational frequency of said rotor in conformity with the speed of the circulation of said plasma caused by
5 said function of accelerating circulation.

3. A platelet collecting apparatus according to claim 2, wherein said controller, while the plasma is circulated as accelerated by said function of accelerating circulation,
10 increases the rotational frequency of said rotor in conformity with the increase of the flow rate of circulation produced by said blood delivering pump.

4. A platelet collecting apparatus according to any of
15 claim 1, wherein said controller during the course of blood collection increases the rotational frequency of said rotor in conformity with the increase of the volume of erythrocytes in said centrifugal separator.

5. A platelet collecting apparatus according to any of
20 claim 1, wherein said controller during the course of blood collection sequentially increases the rotational frequency of said rotor to a predetermined rotational frequency in conformity with the amount of the blood entered into said
25 centrifugal separator.

6. A platelet collecting apparatus according to claim 1, which is further furnished with an input device for effecting entry of the hematocrit value and wherein said controller
30 is furnished with a function of computing the rotational frequency of the rotor of said centrifugal separator at the end of the first round of blood collection based on the input

of hematocrit value and said controller, during the course of blood collection, sequentially increases the rotational frequency of said rotor to the computed rotational frequency of said rotor in conformity with the amount of the blood entered
5 into said centrifugal separator.

7. A platelet collecting apparatus according to claim 1, which is further furnished with a measuring device for measuring the hematocrit value and wherein said controller
10 is furnished with a function of computing the rotational frequency of the rotor of said centrifugal separator at the end of the first round of blood collection based on the determined hematocrit value and said controller, during the course of blood collection, sequentially increases the
15 rotational frequency of said rotor to the computed rotational frequency of said rotor in conformity with the amount of the blood entered into said centrifugal separator.

8. A platelet collecting apparatus according to claim 1, which is further furnished with a memory device for memorizing the amount of blood delivered per unit amount of operation of said blood delivering pump and a detecting device for detecting the amount of operation of said blood delivering pump and wherein said controller computes the amount of blood
20 entered in said centrifugal separator based on the memorized amount of blood delivered per unit amount of operation and the detected amount of operation.

9. A platelet collecting apparatus according to claim 8, wherein said blood delivering pump is formed of a roller pump and said detecting device is formed of a means for detecting the amount of rotation of said roller pump.
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10. A platelet collecting apparatus comprising:
a centrifugal separator possessing a rotatable rotor
having a blood storing space formed therein and an inlet and
5 an outlet both communicating with said blood storing space
and centrifugally separating the blood introduced through
said inlet inside said blood storing space by virtue of the
rotation of said rotor;
a first line for allowing the flow of the blood entering
10 said centrifugal separator;
a second line for allowing the flow of the blood emanating
from said centrifugal separator;
a plasma collecting bag connected to said first line
and said second line so as to collect the plasma emanating
15 from said centrifugal separator and return the collected
plasma to said centrifugal separator;
a platelet collecting bag connected to said second line
so as to collect the platelets emanating from said centrifugal
separator;
20 a blood delivering pump disposed in said first line;
and
a controller for controlling the rotational frequency
of said rotor of said centrifugal separator and the operation
of said blood delivering pump,
25 wherein said controller is endowed with a function of
circulating the plasma collected in said plasma collecting
bag as accelerated to said centrifugal separator and a function
of varying the rotational frequency of said rotor in conformity
with the speed of the circulation of said plasma caused by
30 said function of accelerating circulation.

11. A platelet collecting apparatus according to claim

10, wherein said controller, while the plasma is circulated
as accelerated by said function of accelerating circulation,
increases the rotational frequency of said rotor in conformity
with the increase of the flow rate of circulation produced
5 by said blood delivering pump.

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